

What is claimed is:

1. A chemical mechanical polishing apparatus, comprising:

a polishing pad support;

5 a polishing pad on the support, the polishing pad including a layer having a thickness between about 0.06 and 0.12 inches, one side of the layer providing a polishing surface and having a plurality of grooves formed therein, the grooves having a depth between about 0.02 and 0.05 inches and being uniformly spaced over the polishing surface;

a carrier head to hold a substrate against the polishing surface of the polishing layer;

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a dispenser to supply a slurry to the polishing surface.

2. The apparatus of claim 1, wherein the grooves have a depth of approximately 0.03 inches.

15 3. The apparatus of claim 1, wherein the grooves have a width between about 0.015 and 0.04 inches.

20 4. The apparatus of claim 3, wherein the grooves have a width of approximately 0.02 inches.

5. The apparatus of claim 1, wherein the grooves have a pitch between about 0.09 and 0.24 inches.

25 6. The apparatus of claim 5, wherein the grooves have a pitch of approximately 0.12 inches.

7. The apparatus of claim 1, wherein the grooves are concentrically arranged circles.

30 8. The apparatus of claim 1, wherein the polishing pad further comprises a lower

layer on a side of the layer opposite the polishing surface.

9. The apparatus of claim 8, wherein a distance between a bottom of the grooves and the lower layer is between about 0.035 and 0.085 inches.

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10. The apparatus of claim 9, wherein the distance between a bottom of the grooves and the lower layer is about 0.04 inches.

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11. The apparatus of claim 10, wherein the thickness of the layer of is about 0.07 inches.

12. The apparatus of claim 1, wherein the grooves have a width between about 0.015 and 0.04 inches and a pitch between about 0.09 and 0.24 inches.

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13. The apparatus of claim 12, wherein the grooves have a width of approximately 0.02 inches and a pitch of approximately 0.12 inches.

14. The apparatus of claim 1, further comprising a polishing pad conditioner.

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15. The apparatus of claim 1, wherein the polishing pad support comprises a rotatable platen.

16. The apparatus of claim 15, wherein the platen and polishing pad are circular.

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17. The apparatus of claim 16, wherein the grooves are concentrically arranged circles.

18. The apparatus of claim 15, wherein the carrier head is rotatable.

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